HP StorageWorks EVA4000 SAN Starter Kit Quick Installation

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Finding more information

This document provides an overview of the steps involved in installing the HP EVA4000 SAN Starter Kit. If you need additional information to assist you in the installation, refer to the sources in the *HP EVA4000 SAN Starter Kit release notes*, which can be downloaded from the following web site:

http://www.hp.com/support/manuals

Click **Storage Array Systems** under Storage, and then select **HP StorageWorks 4000/6000/8000 Enterprise Virtual Arrays** under Enterprise Virtual Array Systems.

Step 1. Preparing the site

To ensure continuous, safe, and reliable operation, make sure the EVA4000 operating environment meets the following requirements:

Table 1 Site requirements

Input voltage	180 - 254 VAC
Input frequency	47 - 63 Hz
Input Current - Maximum per line	2.7A
Total System Power	638W
Operating Temperature	50° to 95° F (10° to 35° C)
Humidity	10% to 90% non-condensing
Clearance	Front: 16 in (406 mm) Rear: 11.8 in (300 mm)

Step 2. Checking kit contents

The following items are included in the HP EVA4000 SAN Starter Kit. Make sure you have all the items listed before beginning the installation.

- HP StorageWorks EVA4000 - includes two HSV200 controllers and one disk enclosure, all preinstalled in the rack.
- HP StorageWorks 4/8 Base SAN Switch - provides connection between the EVA4000 and the servers. Preinstalled and cabled in the rack.
- Four HP StorageWorks FC2142SR 4Gb PCI-e HBAs (LPe1150) – installed in the servers connected to the EVA4000
- HP EVA4000 SAN Starter Media Kit - includes Emulex EZPilot and HP StorageWorks Command View EVA management software
- Fiber optic cables - used to connect the switch to the HBAs.
- 4 Gb SFP Transceivers - inserted into the switch ports.

Step 3. Installing HBAs

The HP FC2142SR HBA must be installed in a server PCIe slot. HBA installation procedures vary by server, but the following procedure is typical.

1. Make sure the computer is powered off.
2. Remove the screws on the computer cover, and remove the cover.
3. Remove the blank panel from an empty x4 or higher PCIe bus slot.
4. Insert the HBA into the empty PCIe slot. Press firmly to seat the HBA.
5. Secure the HBA's mounting bracket to the case with the panel clip.
6. Replace the computer case and tighten the case screws.

Step 4. Connecting the hardware

The EVA4000 and the HP 4/8 Base SAN Switch are installed in the rack and cabled before shipment. The only remaining task is to connect a fiber optic cable from a port on the switch to each server HBA. The non-high availability (HA) SAN connections used with the standard product are shown in Figure 1. This is the configuration used in most installations. The HA SAN connections used with an optional second switch are shown in Figure 2.

NOTE:

There are 16 ports on the HP 4/8 Base SAN Switch, but only ports 0 - 7 are licensed for use. Make sure you use one of these ports when connecting the HBAs to the switch.

1. Remove the dust caps from the connectors on the SFP transceivers and fibre optic cables you will be using.
2. Install an SFP transceiver in an active switch port.
3. Connect a fiber optic cable between the SFP and a server HBA.
4. Repeat for each HBA connected to the switch.

Step 5. Powering on the components

1. Connect power to the rack.
2. Switch on the circuit breakers on both EVA rack power distribution units. Verify that the drive enclosure is operating properly. The status indicator and the power indicator should be on (green).
3. Wait three minutes and verify that all disk drives are ready. The drive ready indicator and the drive online indicator should be on (green).
4. Set the power switch on the rear of the upper controller to On.
5. Wait 10 seconds and then power on the lower controller.
6. When the controllers have completed their power on sequence, enter the WWN and checksum using the following procedure.

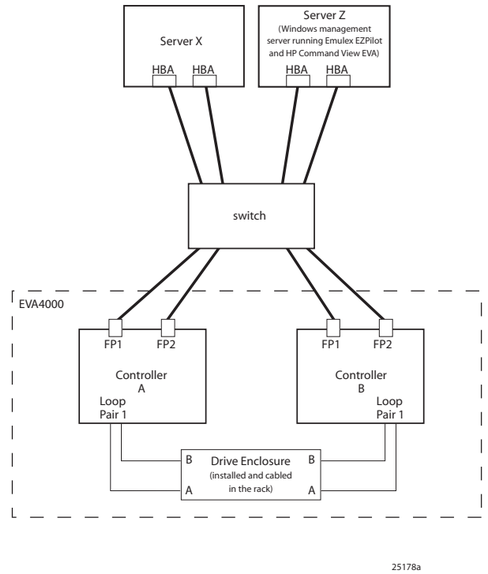


Figure 1 Non-HA (high availability) SAN connections

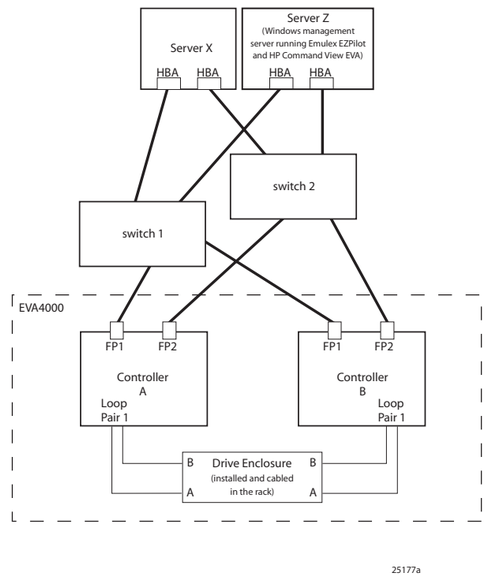


Figure 2 HA (or dual-fabric) SAN connections (requires optional second switch)

Step 6. Entering the WWN and Checksum

The EVA4000 WWN and checksum must be entered using the Operator Control Panel (OCP) on the front of one of the controllers. Labels attached to the front of the rack beside the controllers identify the WWN and checksum.

For more information on using the OCP, refer to the *HP StorageWorks 4000/6000/8000 Enterprise Virtual Array user guide*.

1. Press ▲ or ▼ until the first character of the WWN is displayed. Press ▶ to accept this character and select the next.
2. Repeat step 1 to enter the remaining characters.
3. Press **Enter** to accept the WWN and select the checksum entry mode.
4. Verify that the initial WWN checksum displays 0 in both positions.
5. Press ▲ or ▼ until the first checksum character is displayed. Press ▶ to accept this character and select the second character.
6. Press ▲ or ▼ until the second character is displayed. Press **Enter** to accept the checksum and exit.

Prerequisites for installing EZPilot

Before installing the EZPilot software, make sure the following conditions are met:

- You must have the switch IP address, gateway, and subnet mask to configure it during installation.
- The storage system must be uninitialized. If it has been initialized, it must be uninitialized before installing EZPilot.
- Make sure the switch configuration has not been changed from the factory default. This includes the default switch password.
- If there is any Emulex or Brocade software installed on the server, it must be removed. If MPIO is installed, it must also be removed.

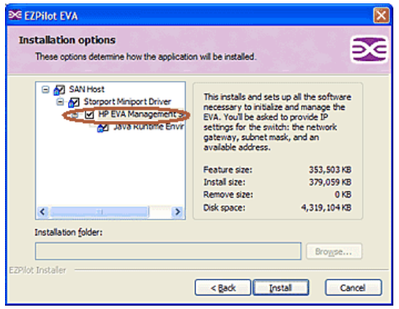
Step 7. Installing Emulex EZPilot on the Windows management server

There must be one Windows management server connected to the EVA4000. The following procedure installs Emulex EZPilot Manager and HP Command View EVA on the Windows management server. During installation, the SAN components will be configured and the EVA4000 will be initialized. For more information on EZPilot, see the *Emulex EZPilot User Manual*. See Finding more information.

NOTE:

EZPilot Manager can only be installed on a Windows server.

1. Insert the EZPilot Windows Installation CD into the CD-ROM drive on the Windows server you will use as the management server. The server must be running Windows Server 2003 R2. Make sure the Storage Management for SANs component included in the R2 Windows feature pack is enabled.
2. After the file is verified, the EZPilot dialog box appears. Click **Next**.
3. The Installation Options dialog box opens. Check the **HP EVA Management Server** box and click **Install**.


EZPilot EVA
Installation options
These options determine how the application will be installed.
SAN Host
Storport Miniport Driver
HP EVA Management
Java Runtime Envir
This installs and sets up all the software necessary to initialize and manage the EVA. You'll be asked to provide IP settings for the switch: the network gateway, subnet mask, and an available address.
Feature size: 353,503 KB
Install size: 379,059 KB
Remove size: 0 KB
Disk space: 4,319,104 KB
Installation folder:
Browse...
EZPilot Installer
< Back
Install
Cancel

4. Follow the on screen instructions to install the EZPilot management software.

Step 8. Installing EZPilot on a Windows non-management server

You must install the EZPilot drivers and software on all Windows non-management servers connected to the EVA4000.

1. Insert the EZPilot Windows Installation CD into the CD-ROM drive on the Windows non-management server. The server must be running Windows Server 2003 R2.
2. The EZPilot dialog box appears. Click **Next**.
3. The Installation Options dialog box opens. Click **Install**.

   Make sure you do not check the HP EVA Management Server check box.
4. Follow the on screen instructions to install the non-management software.

Repeat the above steps to install EZPilot on all Windows non-management servers in connected to the EVA4000.

Step 9. Creating logical drives using EZPilot Manager

To make the EVA4000 storage available to your servers, you must create logical drives and assign them to the appropriate host. This is done using EZPilot Manager. For complete information on creating logical drives, see the *Emulex EZPilot User Manual*. See Finding more information.

NOTE:

If there are Linux servers connected to the EVA4000, you must install the Emulex driver and utilities on them to make them visible to EZPilot Manager. Before continuing, install these components on each Linux server as described in Step 11. Installing the Emulex driver and utilities on a Linux non-management server. This will enable you to assign logical drives to your Linux servers.

1. On your Windows management server, click **Start**.
2. Select **All Programs** > **Emulex** > **EZPilot Manager Utility**

   EZPilot Manager launches displaying the Discovery Information screen.
3. If there are no logical drives on the EVA4000, you will be prompted to create them. Click **OK**.
4. Choose the Logical Drive Type you wish to create and assign a size to the new logical drive. Click **Next** to create the the logical drive.
5. The EZPilot Logical Drive wizard- Local Drive Host Assignment dialog box appears. Select the host (and its adapters) to which you want to assign the logical drive. If "Assign to this host only" is checked, only the local host and its adapters are displayed in the tree. Normally a logical drive is assigned to only one host. Click **Next**.
6. To create additional logical drives, check **Create another logical drive**. Click **Next** and repeat steps 4 and 5.

   When you are finished creating logical drives, uncheck **Create another logical drive** and click **Finish**.

Step 10. Creating and managing Windows disks

After creating logical drives using EZPilot Manager, it will be necessary to use the Windows disk management tools to perform disk-related tasks, such as creating partitions and volumes, formatting them, and assigning drive letters.

The following provides an overview of the tasks involved in managing disks. For more information, refer to Windows online help.

1. On each Windows host to which a logical drive has been assigned, right-click on **My Computer** and click on **Manage**.
2. Select **Disk Management** in the left pane of the Computer Management window.
3. Using the Windows disk management utility, initialize the new disks.
4. Create the desired partitions and volumes on the disk. This includes assigning a drive letter and formatting to use the NTFS file system.
5. Repeat step 5 for each new disk.

Step 11. Installing the Emulex driver and utilities on a Linux non-management server

Perform this step only if you are connecting Linux servers to the EVA4000. A Linux non-management server must be running one of the following Linux versions:

- Red Hat Enterprise Linux 4 (latest update)
- SUSE Linux Enterprise Server 9 (latest service pack)

For complete instructions on installing the Emulex drivers and utilities for Linux, refer to the documentation on the *Emulex Linux Installation CD* included in the HP EVA4000 SAN Starter Media kit

The following is an overview of the steps required to create a Linux non-management server.

1. Ensure a supported version of the Linux operating system is installed on the server.
2. Update with the Proliant Support Pack (for HP servers).
3. Install the Emulex driver for Linux.
4. Install the Emulex HBAnyware utility to configure the HBAs with the correct firmware/BIOS.
5. Install the Emulex MultiPulse utility on your system to allow for multipathing in a High Availability (HA) environment.

Step 12. Recording system information

Enter the specified information in Table 2 to assist you in managing, upgrading, and troubleshooting your HP EVA4000 SAN Starter Kit.

Table 2 System information

HP FC2142SR HBAs	• WWN address: _____ • Serial number: _____ • Firmware version: _____ • Driver version: _____ • WWN address: _____ • Serial number: _____ • Firmware version: _____ • Driver version: _____ • WWN address: _____ • Serial number: _____ • Firmware version: _____ • Driver version: _____ • WWN address: _____ • Serial number: _____ • Firmware version: _____ • Driver version: _____
HP 4/8 Base SAN Switch	• WWN: _____ • IP address: _____ • Firmware version: _____
HP EVA4000 storage system	• WWN: _____ • XCS firmware version: _____
Disk drives	• Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____ • Slot __ Capacity _____ Firmware _____